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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/894,786	06/29/2001	Hong-Sung Song	049128-5021	6023

9629 7590 09/11/2003

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EXAMINER

NGUYEN, JENNIFER T

ART UNIT	PAPER NUMBER
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2674

DATE MAILED: 09/11/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/894,786

Applicant(s)

SONG ET AL.

Examiner

Jennifer T Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 0/29/2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 7 recites the limitation "the double gate shift pulse generator" in page 27, line 2 of claim 7. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-5 and 9 are rejected under 35 U.S.C. 102(e) as being anticipated by Nishimura et al. (U.S. Patent No.: 6,583,778).

Regarding claims 1, 4, 5, and 9, referring to Fig. 9, Nishimura teaches a method of driving a liquid crystal display panel using a 2-dot inversion system, the method comprising the steps of: sequentially pre-charging a plurality of pixel cells of the liquid crystal display panel along a plurality of gate lines (4); and sequentially charging the pixel cells with a plurality of data signals along the gate lines (4) after pre-charging the pixel cells (from col. 2, line 60 to col. 3, lines 29 and from col. 12, line 45 to col. 13, line 10).

Regarding claim 2, Nishimura teaches the pre-charging step is carried out when the pixel cells on the preceding gate line charges the data signal (from col. 12, line 45 to col. 13, line 10).

Regarding claim 3, Nishimura teaches the pre-charging step is carried out at the time interval the same as the data signal charging step (from col. 12, line 45 to col. 13, line 10).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishimura et al. (U.S. Patent No.: 6,583,778) in view of Hirakata (U.S. Patent No.: 6,496,172).

Regarding claim 6, referring to Fig. 9, Nishimura teaches an apparatus for driving a liquid crystal display panel employing a 2-dot inversion system, comprising: a liquid crystal panel having a plurality of pixel cells arranged to cross a plurality of source lines (3) and gate lines (4) each other; a gate driver (2) for applying a gate signal to each gate line (4) such that pixel cells on the gate lines of the liquid crystal display panel sequentially charge data signals to each source line (3) along the gate lines (4) (from col. 2, line 60 to col. 3, lines 29 and from col. 12, line 45 to col. 13, line 10).

Nishimura differs from claim 6 in that he does not specifically teach a dual gate start pulse generator charging the pixel cells prior to the charged data signal to the source line. However, referring to Figs. 2 and 5, Hirakata teaches a gate start pulse generator (204) charging the pixel cells prior to the charged data signal to the source line (col. 12, lines 4-20 and col. 13, lines 5-18). Although Hirakata does not specifically teach the gate start pulse generator is a dual

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start pulse generator. However, it would have been obvious to obtain a dual start pulse generator in order to allow the changed gate signal to be more enabled. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the dual start pulse generator as taught by Hirakata in the system of Nishimura in order to minimize a horizontal flickering noise.

Regarding claim 7, Nishimura further teaches a double gate shift pulse generator pre-charges the pixel cells when the pixel cell on the preceding gate line charges the data signal (from col. 2, line 60 to col. 3, lines 29 and from col. 12, line 45 to col. 13, line 10).

Regarding claim 8, Nishimura further teaches the dual gate start pulse generator allows the pixel cells to carry out the pre-charging in a time interval (1H) equal to an interval for charging the data signal (1H) (from col. 12, line 45 to col. 13, line 10).

7. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nishimura et al. (U.S. Patent No.: 6,583,778) in view of Kim (U.S. Patent No. 6,342,876).

Regarding claim 10, Nishimura teaches the gate driver (2) applying a plurality of first gate signals to the gate lines (4), wherein the first gate signals have a width of one horizontal synchronization interval and sequentially enabled therein; and a width controller (not shown) connected to the gate driving (2) and the gate lines (4) and executing a logical operation of each of the first gate signals and each of second gate signals to be applied to the preceding gate line (4), thereby generating the first gate signals (from col. 2, line 60 to col. 3, lines 29 and from col. 12, line 45 to col. 13, line 10).

Nishimura differs from claim 10 in that he does not specifically teach the gate driver is a gate driving integrated circuit chip. However, referring to Fig. 10, Kim teaches gate driver (20) is

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a gate driving integrated circuit chip (col. 5, lines 42-67). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the driving integrated circuit chip as taught by Kim in the system of Nishimura in order to simplify the circuit, reduce weight and cost of the device.

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Uchino et al. (U.S. Patent No. 6,512,505) teaches LCD apparatus, its driving method and LCD system.

Moriyama (U.S. Patent No. 5,790,092) teaches LCD with reduced power dissipation and/or reduced vertical striped shades in frame control and control method for same.

Chen (U.S. Patent No. 5,648,793) teaches driving system for active matrix LCD.

Hashimoto et al. (U.S. Patent No. 6,570,553) teaches display and its driving method.

Matsushima et al. (U.S. Patent No. 6,396,468) teaches LCD device.

Fujiyoshi (U.S. Patent No. 6,327,008) teaches color LCD unit.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Jennifer T. Nguyen** whose telephone number is **703-305-3225**.

The examiner can normally be reached on Mon-Fri from 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Richard A Hjerpe** can be reach at **703-305-4709**.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

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Washington, DC. 20231

Or faxed to: 703-872-9306 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive,
Arlington, VA, sixth-floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding
should be directed to the Technology Center 2600 Customer Service Office whose telephone
number is 703-306-0377.

Jennifer T. Nguyen
09/02/2003
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**RICHARD HJERPE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600**